

1 Amendments to the Claims:

2 This listing of claims will replace all prior versions, and
3 listings, of claims in the application:

4 Listing of Claims:

5 1. (Currently amended) A membrane for use ~~in~~ inside a testing
6 cell which has a pressure chamber for receiving a specimen and
7 applying forces to said specimen, said membrane comprising to
8 ~~isolate a specimen, said membrane comprising~~ a flexible film
9 adapted to envelope said specimen and isolate said specimen from
10 the interior of said chamber, said membrane adapted to maintain
11 intimate contact with said specimen, having a thickness, said
12 ~~membrane adapted to envelope a specimen,~~ instrumentation embedded
13 in said ~~thickness~~ membrane for measuring a physical property of a
14 specimen.

15 2. (Original) A membrane of claim 1 wherein said physical
16 property being one of the group consisting of stresses, strains,
17 deformation, temperature, soil suction or moisture content.

18 3. (Original) A membrane of claim 1 wherein said
19 membrane has a longitudinal axis and a radial axis, said
20 instrumentation oriented in said membrane to measure said physical

1 property in the longitudinal direction.

2 4. (Original) A membrane of claim 1 wherein said membrane is
3 tubular, said instrumentation oriented in said membrane to measure
4 said physical property in the circumferential direction.

5 5. (Original) A membrane of claim 4 wherein said membrane has
6 a longitudinal axis and a radial axis, said instrumentation
7 oriented in said membrane to measure said property in the
8 longitudinal direction.

9 6. (Currently amended) ~~A membrane of claim 1~~ A membrane for
10 use in a testing cell to isolate a specimen, said membrane
11 comprising a flexible film having a thickness, said membrane
12 adapted to envelope a specimen, instrumentation embedded in said
13 thickness for measuring a physical property of a specimen wherein
14 said instrumentation is oriented in multiple directions in said
15 membrane to measure said physical property and calculate Poisson's
16 ratio.

17 7. (Currently amended) A membrane of claim 1 wherein ~~for use~~
18 ~~in a testing cell to isolate a specimen, said membrane comprising~~
19 ~~a flexible film having a thickness, said membrane adapted to~~

1 ~~envelope a specimen,~~ instrumentation is embedded in said thickness
2 for measuring strains causing deformation of a specimen.

3 8. (Original) A membrane of claim 7 wherein said membrane has
4 a longitudinal axis and a radial axis, said instrumentation
5 oriented in said membrane to measure strains in the longitudinal
6 direction.

7 9. (Original) A membrane of claim 7 wherein said membrane is
8 tubular, said instrumentation oriented in said membrane to measure
9 circumferential properties in response to stresses.

10 10. (Original) A membrane of claim 9 wherein said membrane
11 has a longitudinal axis and a radial axis, said instrumentation
12 oriented in said membrane to measure strains in the longitudinal
13 direction.

14 11. ~~A membrane of claim 7~~ A membrane for use in a testing
15 cell to isolate a specimen, said membrane comprising a flexible
16 film having a thickness, said membrane adapted to envelope a
17 specimen, instrumentation embedded in said thickness for measuring
18 strains causing deformation of a specimen wherein said
19 instrumentation is oriented in multiple directions in said membrane

1 to measure said physical property and calculate Poisson's ratio.

2 12. (Original) A membrane of claim 7 wherein said
3 instrumentation includes an instrument for measuring temperature
4 in the specimen.

5 13. (Original) A membrane of claim 7 wherein said
6 instrumentation includes an instrument for measuring moisture
7 content of the specimen.

8 14. (Currently amended) The membrane of claim 7 wherein said
9 instrumentation includes an ~~intrument~~ instrument for measuring soil
10 potential.

11 15. (Withdrawn) A method of manufacturing a flexible membrane
12 with cavities to receive instrumentation comprising the steps of
13 providing a mold having an inside wall, an outside wall, and an end
14 wall between said inside wall and said outside wall, forming
15 openings in said outside wall, attaching mold plates to said
16 outside wall, said mold plates extending toward said inside wall,
17 attaching flats to said mold plates, said flats including mold
18 cavity components disposed within said mold plates, said flats
19 closing said openings, adding a membrane material to said mold

1 between said inside wall and said outside wall, curing said
2 membrane material, removing said flats, said mold cavity components
3 and said mold plates.

4 16. (Withdrawn) A method of claim 15 wherein said mold is
5 circular.

6 17. (Withdrawn) A method of claim 15 wherein said mold is
7 rotated to dispose said membrane material uniformly about said
8 inside wall and within said mold plates.

9 **NEW CLAIMS**

10

11 18. (New) A membrane of claim 1 wherein said flexible film
12 is formed from one of the group consisting of latex rubber,
13 silicone rubber, urethane, or Silastic.

14 19. (New) A membrane of claim 1 wherein said flexible film
15 is tubular with a continuous sidewall with a cavity formed in said
16 sidewall, said instrumentation disposed in said cavity.